

COMX-P40x0- ENP2 Modules

Ruggedized QorIQ™ Modules

■ Embedded Computing for
Business-Critical Continuity™

PRELIMINARY DATA SHEET

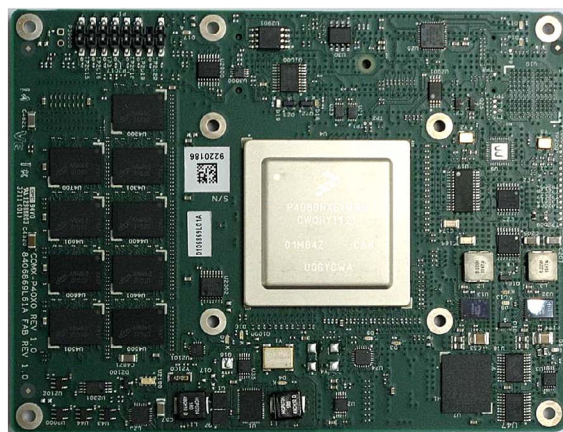
**Ruggedized and extended
temperature COM Express
modules with Freescale
QorIQ processing power**

- Freescale QorIQ P4040 or P4080 processor at 1.2GHz
- 2 or 4 GB of soldered-down DDR3-1333 ECC memory
- 95 mm x 125 mm COM Express Basic footprint
- -40 °C to +85 °C operating temperature range
- Shock and vibration hardened
- 16 configurable SERDES lanes available for maximum flexibility

The COMX-P40x0-ENP2 modules from Emerson Network Power provide the performance and features of the Freescale QorIQ™ processors on ready-to-go pluggable mezzanine modules that is suitable for use in extended temperature, rugged environments. By incorporating and leveraging the mechanical features and dimensions of the COM Express® specification, the COMX-P40x0-ENP2 modules exhibit all the best attributes of the COM Express open standard enabling shorter development schedules and faster time-to-market. Emerson has a range of QorIQ based COM Express form factor modules to enable scalable product strategies with multiple performance levels.

The COMX-P40x0-ENP2 modules are 95 mm x 125 mm which enable them to fit within a very wide range of enclosures when mounted on a customer carrier. COMX-P40x0-ENP2 modules are off-the-shelf processor solutions that isolate you from the complexities of high speed processor and memory system design, allowing you to concentrate on your carrier and application, lowering risk and improving your development schedules.

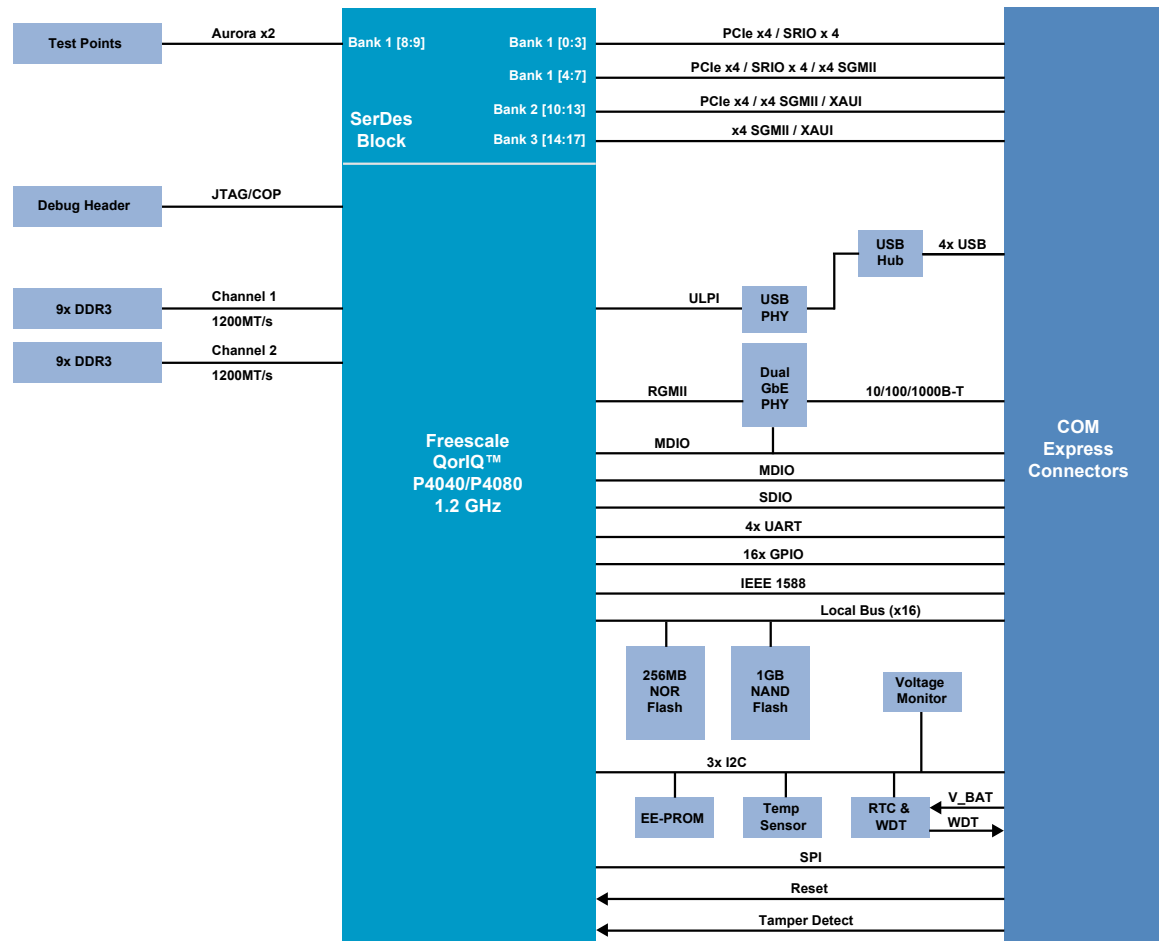
By combining the tried and tested Power Architecture processor cores along with a considerable range of on-module I/O, the COMX-P40x0-ENP2 series is suitable for a range of applications including 4G base-station controllers, in flight entertainment, transport control and signaling, vehicle instrumentation and other applications that need high performance, low latency control in a rugged package.



COM Express®


EMERSON
Network Power

COMX-P4040 & COMX-P4080 Block Diagram



Hardware Specifications

PROCESSOR

- Freescale QorIQ P4080, eight cores running at 1.2 GHz
- Freescale QorIQ P4040, four cores running at 1.2 GHz

FORM FACTOR

- 95 mm x 125 mm COM Express Basic size module

BOOTLOADER

- U-boot

MEMORY

- 2GB or 4GB soldered-down DDR3-1333 ECC memory

ON-BOARD STORAGE

- 256MB NOR flash
- 1GB NAND flash
- 2kbit I²C user EEPROM

ON-BOARD I/O

- JTAG Debug

I/O TO THE CARRIER

16 configurable SERDES lanes available for maximum flexibility in customer platform design. Available interfaces include:

- Up to one (1) 10 GbE XAU1 3.125Gbps
- Up to four (4) 1 GbE SGMII 1.25Gbps
- Up to three (3) PCI Express x4 2.5 or 5Gbps
- Up to two (2) SRIO x4 2.5 or 3.125Gbps

OTHER I/O AT THE CONNECTOR

- Four (4) UART ports
- One (1) Gigabit Ethernet interface (10/100/1000Base-T)
- Two (2) MDIO
- Sixteen (16) general purpose I/O (GPIO) ports
- Three (3) I²C bus
- Five (5) IRQ interrupts
- Four (4) USB 2.0 ports
- IEEE 1588 control
- Tamper detection
- Real-time clock
- Watchdog timer
- SPI Bus with four (4) chip selects

ACCESSORIES

- Heatsink, heat spreading plate, development carrier

ENVIRONMENTAL

- -40 °C to +85 °C operating temperature range

VIBRATION

- Sine: 5G (15 to 2000Hz), 10 minutes per axis
- Random: .04g²/Hz (15 to 2000Hz), 1 hour per axis. The profile shall be flat across 15-1000Hz, -6db/octave across 1000Hz - 2000Hz
- Operating shock: 30g for 11ms duration (saw tooth), 3 shocks per axis.

COMPLIANCE AND CERTIFICATION INFORMATION

- RoHS 6/6
- UL/CSA 60950-1, EN55022, FCC Class B

Firmware and Operating System Support

OS SUPPORT

- Linux 2.6.34 BSP
- Wind River VxWorks 6.8 SMP

Ordering Information	
Product	Description
COMX-P4040-2G-ENP2	P4040 extended temp module, 2GB RAM
COMX-P4080-2G-ENP2	P4080 extended temp module, 2GB RAM
COMX-P4080-4G-ENP2	P4080 extended temp module, 4GB RAM
COMX-P4000-ENP-HSP	COMX- P40x0 -ENP2 heat spreading plate
COMX-P4000-ENP2-HTSNK	COMX-P40x0-ENP2 active heatsink
COMX-CAR-P1	Carrier card for development

SOLUTION SERVICES

Emerson Network Power provides a portfolio of solution services optimized to meet your needs throughout the product lifecycle. Design services help speed time-to-market. Deployment services include global 24x7 technical support. Renewal services enable product longevity and technology refresh.

COM Express is a trademark of PICMG. All other product or service names are the property of their respective owners.

This document identifies products, their specifications, and their characteristics, which may be suitable for certain applications. It does not constitute an offer to sell or a commitment of present or future availability, and should not be relied upon to state the terms and conditions, including warranties and disclaimers thereof, on which Emerson Network Power may sell products. A prospective buyer should exercise its own independent judgment to confirm the suitability of the products for particular applications. Emerson Network Power reserves the right to make changes, without notice, to any products or information herein which will, in its sole discretion, improve reliability, function, or design. Emerson Network Power does not assume any liability arising out of the application or use of any product or circuit described herein; neither does it convey any license under its patent or other intellectual property rights or under others. This disclaimer extends to any prospective buyer, and it includes Emerson Network Power's licensee, licensee's transferees, and licensee's customers and users. Availability of some of the products and services described herein may be restricted in some locations.

Emerson Network Power.
The global leader in enabling
Business-Critical Continuity™.

AC Power
Connectivity
DC Power
Embedded Computing

Embedded Power
Infrastructure Management & Monitoring
Outside Plant
Power Switching & Controls

Precision Cooling
Racks & Integrated Cabinets
Services
Surge Protection

Emerson Network Power

Offices: Tempe, AZ U.S.A. 1 800 759 1107 or +1 602 438 5720

Paris, France +33 1 60 92 31 20 • Munich, Germany +44 1509 236490 • Tel Aviv, Israel +972 9 9560361

Hong Kong +852 2176 3540 • Shanghai, China +86 21 3395 0289 • Tokyo, Japan +81 3 5403 2730 • Seoul, Korea +82 2 3483 1500

EmersonNetworkPower.com/EmbeddedComputing

Emerson and the Emerson Network Power logo are trademarks of Emerson Electric Co. ©2012 Emerson Electric Co. All rights reserved.